



Directional Survey File
Format Guide
VERSION 1.9: December 2023

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1.1 Overview

The BC Energy Regulator (Regulator or BCER) has mandated the electronic submission of directional survey information via the Regulator's [eSubmission](#) portal. Electronic submission is required for all wells spudded after January 1, 2009.

Directional surveys must be submitted electronically via the eSubmission portal within 14 days of the rig release.

Directional surveys must be extrapolated to total measured depth and submitted in both text (.txt) and PDF (.pdf) formats. Cross-section and plan view graphical plots must be included within the PDF file, if available.

1.2 Compliance

All submissions made to the Regulator in support of an application or a regulatory requirement that include work relating to the practice of professional engineering or professional geoscience are expected to accord with the Professional Governance Act, [SBC 2018], c. 47 and the Bylaws of Engineers and Geoscientists British Columbia (EGBC). This includes any requirements relating to authentication of documents.

2.1 File Naming Convention

To facilitate standard identification of submitted data, a file naming convention is required.

Prior to submission, files must be named using the following naming convention:

WANUM_DIR_YYYYMMDD_OPTIONAL.TYPE

WANUM	The assigned five digits of the Well Authorization Number.
DIR	The submission classification, three alpha characters. DIR stands for “Directional Survey”.
DATE	The date portion must be in YYYYMMDD format. Example: For April 1, 2015 would be 2015APR01. Guidance: Rig Release date is the preferred date to be used in the date field.
OPTIONAL	For file uniqueness and re-submission, the optional component of the file can be up to 40 alphanumeric characters and can be omitted. Guidance: The optional component can be the user’s best judgment with regards to the drilling event and the version number. Example: For drilling event 00 and version 1, the optional component can be 00_V1.
TYPE	The file type (.txt or .pdf only)
Examples	Original directional survey submission for Well Authorization Number 24195, Drilling Event 00 with a rig release date of July 10 th , 2014: <ul style="list-style-type: none">• 24195_DIR_2014JUL10_00_V1.PDF for the PDF file.• 24195_DIR_2014JUL10_00_V1.TXT for the text file.

File specifications were designed to align with the majority of data standards and formatting currently utilized in an effort to make this submission process as convenient as possible for industry clients:

- PDF files must be searchable, as would be created by Adobe Acrobat.
- Text files must be loosely formatted, as per Section 2.2.

2.2 Text File Specifications

If text files are loaded in an incorrect format, the Directional Survey Application will detect a problem and reject the file. Therefore, text files **must** be submitted in the following format:

Header Information:

Header data and column titles must be included at the top of the file.

Data Information:

The data component of the file must be contiguous from where the data starts to the end of the file and should not be interrupted by repeating header information or column titles.

There should not be any additional text or headers following the end of the data component (TD line) or the text file will be rejected.

The data component of the text file must contain a minimum of three columns with column delimiters that are spaces and/or tabs. Values can contain up to two decimal places.

In specific order, the first three columns must be *Measured Depth* (in metres, referenced to the Kelly Bushing), *Inclination* (degrees) and *Azimuth* (degrees, corrected to true north).

Additional columns to those specified may also be included in the file in Column 4 and greater.

There must be a minimum of 10 measured depth data points and no duplicate depths are allowed.

To help the Regulator in linking the directional survey with the correct drilling event, please ensure that the last point on the directional survey is the *Total Measured Depth (TD)* of the well bore, and not the last survey location, and that there are no other data or comment lines after the TD line.

2.3 Example of a Correctly Formatted Text File

The following is an example of a correctly formatted text file:

```

Company:      Oil and Gas Company
Field:        Field (NAD 83)                Canadian UTM Zones (NAD83/GRS80)
North Ref:    True
Site/Location: Oil and Gas Company Field Loc      UTM Zone 10, North 126W to 120W Mag, Corr.  +17.66 EAST
Well:         Location                      GRS 1980                               Depth Units:m
Wellpath:     2090
Survey Name:   Actual Wellpath (As Drilled)
    
```

```

WELLHEAD LOCATION                                BOTTOM
HOLE LOCATION
Well Northing:  #####.##                Lat:    ##°###.###N                Rig K.B:  781.92
              BHL Md  3630.00
Well Easting:   #####.##                Long:   ###°###.###W                Vsec Az:  343.51
              BHL Tvd  2181.09
    
```

```

SURVEY LIST
MD      INC      AZI      TVD      NS      EW      VSEC      DLS      S/STVD      Northing      Easting      Comments
0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    -781.92    6138053.28670205.10
350.00  0.00    0.00    350.00  0.00    0.00    0.00    0.00    -431.92    6138053.28670205.10
367.16  0.88    46.39   367.16  0.09    0.10    0.06    1.54    -414.76    6138053.38670205.20
423.35  0.81    18.52   423.34  0.77    0.53    0.58    0.22    -358.58    6138054.07670205.61
479.15  0.88    13.89   479.14  1.56    0.76    1.27    0.05    -302.78    6138054.87670205.81
535.22  1.00    356.89  535.20  2.46    0.84    2.12    0.16    -246.72    6138055.77670205.85
591.62  0.81    335.77  591.59  3.32    0.65    3.00    0.20    -190.33    6138056.62670205.63
647.95  1.38    329.14  647.91  4.26    0.14    4.05    0.31    -134.01    6138057.55670205.08
704.10  0.63    8.39    704.05  5.15    -0.16   4.98    0.52    -77.87     6138058.42670204.74
760.25  1.19    277.89  760.20  5.53    -0.70   5.50    0.72    -21.72     6138058.78670204.20
816.25  0.63    257.64  816.19  5.55    -1.57   5.77    0.34    34.27     6138058.76670203.32
873.37  1.44    251.76  873.30  5.26    -2.56   5.77    0.43    91.38     6138058.43670202.34
930.71  1.19    236.64  930.63  4.70    -3.74   5.57    0.22    148.71    6138057.84670201.18
988.14  0.94    284.14  988.05  4.49    -4.70   5.64    0.46    206.13    6138057.59670200.24
1045.23 0.25    336.89  1045.13 4.72    -5.20   6.00    0.43    263.21    6138057.80670199.73
1102.52 0.50    109.01  1102.42 4.75    -5.01   5.98    0.36    320.50    6138057.84670199.91
1159.93 0.69    147.64  1159.83 4.38    -4.59   5.50    0.23    377.91    6138057.48670200.35
1217.16 0.38    168.76  1217.06 3.90    -4.37   4.98    0.19    435.14    6138057.01670200.59
1274.31 2.44    167.14  1274.19 2.53    -4.06   3.58    1.08    492.27    6138055.65670200.95
1331.62 1.63    157.39  1331.46 0.59    -3.48   1.55    0.46    549.54    6138053.73670201.61
1389.08 0.81    197.14  1388.91 -0.56   -3.28   0.40    0.59    606.99    6138052.60670201.84
1446.33 1.25    247.39  1446.15 -1.18   -3.98   0.00    0.50    664.23    6138051.95670201.17
.
3607.50 90.20    356.70  2181.07 1445.77 -365.14 1489.95 2.63    1399.15    6139483.90669784.49
3616.00 89.90    354.90  2181.06 1454.25 -365.76 1498.26 6.44    1399.14    6139492.35669783.54
3630.00 89.90    354.90  2181.09 1468.20 -367.01 1511.98                                Extrapolated to TD @ 3630mMD
    
```

2.4 Questions

Any questions can be forwarded to the BC Energy Regulator as follows:

Drilling and Production drilling.production@bc-er.ca

Information Systems ServiceDesk@bc-er.ca